

ABSTRACT

The present invention enables permanent biometric authentication without the risk of forgery or the like. The present invention enables living-tissue discrimination as well as biometric authentication.

The roughness distribution pattern of deep-layer tissue of the skin covered with epidermal tissue is detected, thereby extracting a unique pattern of the living tissue. Then, biometric authentication is performed based upon the detected pattern. The roughness distribution pattern of the deep-layer tissue of the skin is optically detected using difference in optical properties between the epidermal tissue and the deep-layer tissue of the skin. In this case, long-wavelength light, e.g., near-infrared light is used as illumination light cast onto the skin tissue. A fork structure of a subcutaneous blood vessel is used as the portion which is to be detected, for example. The portion which is to be detected is determined based upon the structure of the fork structure. In this case, the living-tissue discrimination may be made using the subcutaneous blood vessel.